



September 18, 2018

Andres Mizrahi, E.I.
KEITH
301 East Atlantic Blvd,
Pompano Beach, Florida 33060

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
520 N. Birch Road Condominium, DRC R17018
520 N. Birch Road, Fort Lauderdale, Florida 33315

Dear Mr. Mizrahi,

According to the site plan submitted, the project consists of constructing a condominium building with 22 units to replace the existing hotel with 14 units. Water and sewer connections to existing City of Fort Lauderdale (City) utilities are proposed along Windamar Street and Viramar Street. According to the calculations submitted, the project will increase water and sewer demand by 0.004 million gallons per day (MGD). The Department of Sustainable Development (DSD) will review and approve such flow calculations. Furthermore, if DSD staff issues comments on the proposed flow calculations after the issuance of this capacity availability letter, the consultant shall request a revised letter with the correct approved flow calculations.

The determination of capacity availability is based upon tools and data analysis as of the date of this letter. Availability of capacities, as calculated in the attached analysis, is not guaranteed and no existing system capacity shall be considered "committed" for this project until a permit has been issued and all fees have been paid. The City reserves the right to re-evaluate the availability of capacities at the time of permit application. If sufficient capacities are not available, the City may deny the permit application or ask the Owner/Developer to submit an alternate design prior to approval. Information contained in this letter will expire one year from the date issued.

Should you have any questions or require any additional information, please contact me at (954) 828-5850.

Sincerely,

Igor Vassiliev, P.E.
Project Manager II

Enclosures: Capacity Analysis Determination

cc: Nancy Gassman, Ph.D., Interim Deputy Public Works Director
Talal Abi-Karam, P.E., Assistant Public Works Director
Omar Castellon, P.E., Assistant City Engineer
Dennis Girisgen, P.E., City Engineer
File: Water and Sewer Capacity Letters

PUBLIC WORKS DEPARTMENT

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City of Fort Lauderdale
Public Works Department
Water and Wastewater Capacity Analysis
June 12, 2018

Project: 520 N. Birch Road Condominium
520 N. Birch Road, Fort Lauderdale, Florida 33315
DRC Case No. R17018

PROJECT AND DESCRIPTION

Construction of a 22-unit condominium complex to replace an existing 14-unit hotel.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by an 8-inch water main along Viramar Street, see Figure 1.

Wastewater: The site is currently served by an 8-inch gravity sewer main along Windamar Street and an 8-inch gravity sewer main along Viramar Street that convey flows downstream to a 10-inch sewer on North Birch Road and to pumping station D-41, see Figure 2.

Pumping Station: The site is served by Pumping Station D-41 (PS D-41) located on N. Birch Road south of Riomar Street.

SUMMARY OF ANALYSIS AND REQUIRED ACTION

Existing water and sewer infrastructure have sufficient capacity to serve the project with no improvements required.

The map shows a residential neighborhood with streets including Britannia, Rio Mar St, and Bayshore Dr. A red rectangle highlights a specific location on Rio Mar St, labeled "PROJECT LOCATION". The map includes various house numbers, street names, and a "VALVE OFF" label. A red arrow points from the "PROJECT LOCATION" label to the highlighted area. The map also shows a "6\"/>

WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated potable water demand is 4,242 gallons per day (GPD), which equates to 0.004 million gallons per day (MGD). Water use demands are calculated based on the City's *"Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing distribution pipe (flow & capacity): According to the site plan the applicant is proposing to utilize the 8-inch water main on Viramar Street. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 8-inch water main. The existing water main has capacity to serve the project.

Evaluation of impact of Permitted Water Plant Capacity: The Fiveash and the Peele Dixie Water Treatment Plants are designed to treat 70 MGD and 12 MGD of raw water respectively (82 MGD total). The total permitted Biscayne aquifer water withdrawals for these plants is limited to 52.55 MGD per the South Florida Water Management District (SFWMD) permit number 06-00123-W.

Based on the 12-month average, the current production at the two plants is 38.49 MGD. The previously committed demand from the development projects in the permitting or the construction stage is 3.137 MGD. Combining these figures with the demand from the proposed project of 0.004 MGD, the required production would be 41.63 MGD. This is less than the allowable withdrawal limit of 52.55 MGD. Therefore, the water plants have sufficient capacity to serve this project.

Recommended Water Infrastructure Improvements: No improvements required.

WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated additional potable water demand is 4,242 gallons per day (GPD), which equates to 0.004 MGD (although wastewater is usually 80% of the potable water, a higher, conservative figure has been used for calculations). Sewer use demands are calculated based on the City's *"Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing collection pipe (gravity system capacity): The existing site and adjacent buildings are served by two 8-inch gravity sewer mains. The proposed flows will be split between the two 8-inch gravity sewer mains and discharge into a single 10-inch gravity sewer main. This analysis evaluated the impact of the proposed flows on the 10-inch gravity sewer main.

Manual of Practice (MOP) 60, published by American Society of Civil Engineers (ASCE) for the gravity sewer design and used by the City staff, recommends that pipe diameters 15-inch or less be designed to flow half full during peak flows. Based on the tools and information available to the City staff, it has been calculated that the 10-inch diameter pipe will flow 5% full, less than the ASCE recommended 50%. The City has used a peak hourly flow factor of 3.0, which is higher than 2.2 as noted in the Reiss Report. Therefore, the 10-inch diameter pipe is adequate to serve the project.

Evaluation of impact on pumping station: Pumping Station D-41 (PS D-41) had a capacity of 320 gallons per minute (GPM) and as of Jun 1, 2018, had a Nominal Average Pumping Operating Time (NAPOT) of approximately 9.9 hours per day. However, Pump Station D-41 is currently being replaced by a new pump station with a pumping capacity rated at 1600 gallons per minute (GPM). New pump station estimated Nominal Average Pumping Operating Time (NAPOT) will be well under 4.0 hours, which is less than Miami-Dade County's recommended daily average (NAPOT) of 10 hours per day. This run time is also less than Broward County's *"Guidelines for Determining Ability to Provide Potable Water and Wastewater Service"*, recommended NAPOT of 8 hours per day. Therefore the pumping station has sufficient capacity to serve the project.

Evaluation of impact of Permitted Wastewater Plant Capacity: The City of Fort Lauderdale owns and operates the George T. Lohmeyer Regional Wastewater Treatment Plant (GTL), which provides wastewater treatment for the City of Fort Lauderdale. The Broward County's Environmental Protection and Growth Management Department's (EPGMD) Environmental Licensing & Building Permitting Division's licensed capacity for GTL is 48 MGD-AADF (Million Gallons per Day – Annual Average Daily Flow). The annual average daily flow (AADF) to the plant currently is 40.545 MGD. Combining the committed flows for previously approved projects of 3.137 MGD, plus the 0.004 MGD net contribution from the project, provides a total projected flow of 43.69 MGD. This is less than the permitted treatment plant capacity of 48 MGD. Therefore, the treatment plant has sufficient capacity to serve this project.

Recommended Wastewater Infrastructure Improvements: No improvements required